Table 13.1 Leukemia

Trends in SEER Incidence<sup>ab</sup> and U.S. Mortality<sup>c</sup> Using the Joinpoint Regression Program, 1975-2012 With up to Five Joinpoints, 1992-2012 With up to Three Joinpoints, Both Sexes by Race/Ethnicity

SERR   Delay   Adjusted   Incidence   1975 - 2012   2.74   And   2.74   And   2.74   And   2.74   And   2.74   And   2.75   And		JP Tre	JP Trend 1		JP Trend 2		JP Trend 3		JP Trend 4		JP Trend 5		JP Trend 6		AAPC <sup>d</sup>	
All Races				Years	APC	Years	APC	Years	APC	Years	APC	Years	APC	2003-12	2008-12	
All Races	SEER 9 Delay-Adju	sted Incider	nce <sup>a</sup> , 197	75-2012												
Black   1975-12   0.3					2.7*									1.6*	2.7*	
All Races	White	1975-09	0.5*	2009-12	4.5*									1.8*	3.5*	
All Races   1992-07   0.4*   2007-12   2.1*   1.3*   2.1*   2.1*   1.3*   2.1*   1.3*   0.8*   1992-12   0.8*   0.2*	Black	1975-12	0.3											0.3	0.3	
All Races   1992-07   0.4*   2007-12   2.1*   1.3*   2.1*   2.1*   1.3*   2.1*   1.3*   0.8*   1992-12   0.8*   0.2*	SEER 13 Delay-Adjusted Incidence <sup>b</sup> , 1992-2012															
See	All Races	1992-07	0.4*	2007-12	2.1*									1.3*	2.1*	
All Races	White	1992-12	0.8*											0.8*	0.8*	
All Races 1975-12 0.2* White 1975-12 0.3* Black 1975-12 0.0*  SEER 13 Observed Incidence*, 1992-2012 All Races 1992-12 0.2* White NH** 1992-12 0.2* White NH** 1992-12 0.2* Black 1992-12 0.2 Black NH** 1992-12 0.6 Black NH** 1992-01 0.6* Bla	Black	1992-12	0.8*											0.8*	0.8*	
Mark   1975-12   0.3*	SEER 9 Observed I															
SEER 13 Observed Incidence*, 1992-12   0.2*																
SEER 13 Observed Incidence <sup>b</sup> , 1992-2012 All Races 1992-12 0.2* White 1992-12 0.3* White NHe <sup>f</sup> 1992-12 0.4* Black 1992-12 0.0 2 API <sup>e</sup> 1992-12 0.2 API <sup>e</sup> 1992-12 -0.2 AI/AN <sup>eg</sup> 1992-12 1.6 Hispanic <sup>f</sup> 1992-12 0.4  U.S. Cancer Mortality <sup>c</sup> , 1975-2012 All Races 1975-80 0.6 1980-88 -0.6* 1988-91 0.7 1991-01 -0.6* 2001-12 -1.0*  U.S. Cancer Mortality <sup>c</sup> , 1975-10 0.7* 1991-12 -1.2*  U.S. Cancer Mortality <sup>c</sup> , 1975-2012 All Races 1995-10 0.7* 1991-12 -1.2*  U.S. Cancer Mortality <sup>c</sup> , 1992-212 All Races 1995-10 0.0* 2001-12 -0.9* Black 1995-10 0.0* 2001-12 -0.9* Black 1995-10 -0.5* 2011-12 -1.0*  U.S. Cancer Mortality <sup>c</sup> , 1992-212 All Races 1992-01 -0.4* 2001-12 -0.9* Black 1992-01 -0.5* 2011-12 -0.8* Black NHe <sup>ef</sup> 1992-01 -0.3* 2001-12 -0.8* Black NHe <sup>ef</sup> 1992-01 -0.3* 2001-12 -0.8* Black NHe <sup>ef</sup> 1992-12 -1.1* API <sup>e</sup> 1992-12 -1.1* API <sup>e</sup> 1992-12 -1.4* -1.2* -																
All Races 1992-12 0.2* White 1992-12 0.3* White NHef 1992-12 0.4* Black 1992-12 0.2 Black NHef 1992-12 0.2 Black NHef 1992-12 0.2 AI/ANPS 1992-12 0.2 AI/ANSS 1992-12 1.6 Hispanicf 1992-12 0.4  U.S. Cancer Mortalityc, 1975-2012 All Races 1975-80 0.6 1980-88 -0.6* 1988-91 0.7 1991-01 -0.6* 2001-12 -1.0*  U.S. Cancer Mortalityc, 1975-2012 Black 1975-91 0.7* 1991-12 -1.2*  U.S. Cancer Mortalityc, 1975-2012 All Races 1975-90 -0.3* 2000-12 -0.9* Black 1975-91 0.7* 1991-12 -1.2*  U.S. Cancer Mortalityc, 1992-2012 All Races 1992-01 -0.5* 2001-12 -1.0*  White 1992-01 -0.5* 2001-12 -1.0*  White 1992-01 -0.4* 2001-12 -0.9*  White Nhef 1992-01 -0.4* 2001-12 -0.9*  White Nhef 1992-01 -0.4* 2001-12 -0.9*  White Nhef 1992-12 -1.1*  Black 1992-12 -1.1*  APIF 1992-12 -1.1*  APIF 1992-12 -0.2  U.S. Cancer Mortality 1992-12 -1.1*  APIF 1992-12 -0.2  AI/ANS 1992-12 -0.2  AI/ANS 1992-12 -0.2	Black	1975-12	0.0											0.0	0.0	
White NHeff 1992-12 0.3* White NHeff 1992-12 0.4* White NHeff 1992-12 0.4 Black 1992-12 0.2 Black NHeff 1992-12 0.2 APIF 1992-12 0.2 AI/ANF9 1992-12 1.6 Hispanicf 1992-12 0.4  U.S. Cancer Mortalityc, 1975-2012 All Races 1975-80 0.6 1980-88 -0.6* 1988-91 0.7 1991-01 -0.6* 2001-12 -1.0* White 1975-00 -0.3* 2000-12 -0.9* Black 1975-91 0.7* 1991-12 -1.2*  U.S. Cancer Mortalityc, 1992-2012 All Races 1992-01 -0.5* 2001-12 -1.0* White 1992-01 -0.5* 2001-12 -1.0* White 1992-01 -0.5* 2001-12 -0.9* Black 1992-01 -0.4* 2001-12 -0.0* Black 1992-01 -0.4* 20	SEER 13 Observed Incidence <sup>b</sup> , 1992-2012															
White NHef 1992-12 0.4* Black 1992-12 0.2 Black NHef 1992-12 0.2 API* 1992-12 0.2 API* 1992-12 0.2 AI/AN**** 1992-12 1.6 Hispanic* 1992-12 1.6 Hispanic* 1992-12 0.4  U.S. Cancer Mortality*, 1975-2012 All Races 1975-80 0.6 1980-88 -0.6* 1988-91 0.7 1991-01 -0.6* 2001-12 -1.0* White 1975-00 -0.3* 2000-12 -0.9* Black 1975-91 0.7* 1991-12 -1.2*  U.S. Cancer Mortality*, 1992-2012 All Races 1992-01 -0.5* 2001-12 -1.0* White 1992-01 -0.5* 2001-12 -1.0* White 1992-01 -0.5* 2001-12 -1.0* White 1992-01 -0.4* 2001-12 -0.9* White NHef 1992-01 -0.4* 2001-12 -0.9* Black 1992-12 -1.2* Black NHef 1992-12 -1.2* Black 1992-12 -0.2																
Black NHef 1992-12 0.2 Black NHef 1992-12 0.2 APIe 1992-12 0.2 AI/ANeg 1992-12 1.6 Hispanicf 1992-12 0.4  U.S. Cancer Mortalityc, 1975-2012 All Races 1975-80 0.6 1980-88 -0.6* 1988-91 0.7 1991-01 -0.6* 2001-12 -1.0* Black 1975-91 0.7* 1991-12 -1.2*  U.S. Cancer Mortalityc, 1975-2012 All Races 1992-01 -0.5* 2000-12 -0.9* Black 1975-91 0.7* 1991-12 -1.2*  U.S. Cancer Mortalityc, 1992-2012 All Races 1992-01 -0.4* 2001-12 -0.9* White 1992-01 -0.4* 2001-12 -0.9* White 1992-01 -0.4* 2001-12 -0.9* White NHef 1992-01 -0.4* 2001-12 -0.8* Black 1992-12 -1.1* ABICK 1992-12 -1.2* Black 1992-12 -1.2* Black 1992-12 -1.2* Black 1992-12 -1.2* Black 1992-12 -1.2* AI/ANeg 1992-12 -1.4* 2007-12 2.3 AI/ANeg 1992-12 -0.2		1992-12													0.3*	
Black NHef 1992-12 0.2 API 1992-12 -0.2 AI ANeg 1992-12 1.6 Hispanic 1992-12 0.4  U.S. Cancer Mortality, 1975-2012 All Races 1975-80 0.6 1980-88 -0.6* 1988-91 0.7 1991-01 -0.6* 2001-12 -1.0* -1.0* -1.0* -1.0* White 1975-00 -0.3* 2000-12 -0.9* Black 1975-91 0.7* 1991-12 -1.2* -1.2*  U.S. Cancer Mortality, 1992-2012 All Races 1992-01 -0.5* 2001-12 -1.0* -1.0* -1.0* White 1992-01 -0.5* 2001-12 -1.0* -1.0* White 1992-01 -0.4* 2001-12 -0.9* White 1992-01 -0.3* 2001-12 -0.9* White 1992-01 -0.3* 2001-12 -0.9* Black 1992-12 -1.2* Black NHef 1992-01 -0.3* 2001-12 -0.8*  Black NHef 1992-01 -0.3* 2001-12 -0.8*  Black 1992-12 -1.2* Black NHef 1992-01 -0.3* 2007-12 2.3  AI/ANeg 1992-12 -1.4* API 992-07 -1.4* 2007-12 2.3  AI/ANeg 1992-12 -0.2	White NH <sup>ef</sup>	1992-12	0.4*												0.4*	
API° 1992-12 -0.2 AI/AN°G 1992-12 0.4 Hispanic 1992-12 0.4  U.S. Cancer Mortality°, 1975-2012 All Races 1975-80 0.6 1980-88 -0.6* 1988-91 0.7 1991-01 -0.6* 2001-12 -1.0*  White 1975-00 -0.3* 2000-12 -0.9* Black 1975-91 0.7* 1991-12 -1.2*  U.S. Cancer Mortality°, 1992-2012 All Races 1992-01 -0.5* 2001-12 -1.0*  White 1992-01 -0.4* 2001-12 -0.9* White 1992-01 -0.4* 2001-12 -0.9* White NH°F 1992-01 -0.3* 2001-12 -0.9* Black 1992-12 -1.2*  Black 1992-12 -1.2*  Black NH°F 1992-12 -1.1* API° 1992-07 -1.4* 2007-12 2.3  AI/AN°G 1992-12 -0.2  AI/AN°G 1992-12 -0.2  AI/AN°G 1992-12 -0.2  AI/AN°G 1992-12 -0.2		1992-12	0.2											0.2	0.2	
AI/AN <sup>eg</sup> 1992-12 1.6 Hispanic <sup>f</sup> 1992-12 0.4  U.S. Cancer Mortality <sup>c</sup> , 1975-2012  All Races 1975-80 0.6 1980-88 -0.6* 1988-91 0.7 1991-01 -0.6* 2001-12 -1.0* -1.0* -1.0* -1.0* -1.0* White 1975-00 -0.3* 2000-12 -0.9* Black 1975-91 0.7* 1991-12 -1.2* -1.2*  U.S. Cancer Mortality <sup>c</sup> , 1992-2012  All Races 1992-01 -0.5* 2001-12 -1.0* -1.0* White 1992-01 -0.4* 2001-12 -0.9* White NH <sup>ef</sup> 1992-01 -0.3* 2001-12 -0.8* Black 1992-12 -1.2* Black NH <sup>ef</sup> 1992-12 -1.2*  Black NH <sup>ef</sup> 1992-12 -1.2* API <sup>e</sup> 1992-07 -1.4* 2007-12 2.3  AI/AN <sup>eg</sup> 1992-12 -0.2	Black NH <sup>ef</sup>	1992-12	0.2											0.2	0.2	
Hispanic <sup>f</sup> 1992-12 0.4 <u>U.S. Cancer Mortality<sup>c</sup>, 1975-2012</u> All Races 1975-80 0.6 1980-88 -0.6* 1988-91 0.7 1991-01 -0.6* 2001-12 -1.0* -1.0* -1.0* -0.9* -0.9*  Black 1975-91 0.7* 1991-12 -1.2* -1.2* <u>U.S. Cancer Mortality<sup>c</sup>, 1992-2012</u> All Races 1992-01 -0.5* 2001-12 -1.0* -1.0*  White 1992-01 -0.4* 2001-12 -0.9*  White NH <sup>ef</sup> 1992-01 -0.3* 2001-12 -0.8*  Black 1992-12 -1.2*  Black 1992-12 -1.1*  API <sup>e</sup> 1992-07 -1.4* 2007-12 2.3  AI/AN <sup>eg</sup> 1992-12 -0.2	API <sup>e</sup>	1992-12	-0.2											-0.2	-0.2	
U.S. Cancer Mortality <sup>c</sup> , 1975-2012 All Races 1975-80 0.6 1980-88 -0.6* 1988-91 0.7 1991-01 -0.6* 2001-12 -1.0* -1.0* -1.0* -1.0* White 1975-00 -0.3* 2000-12 -0.9* Black 1975-91 0.7* 1991-12 -1.2*  U.S. Cancer Mortality <sup>c</sup> , 1992-2012 All Races 1992-01 -0.5* 2001-12 -1.0* -1.0* White 1992-01 -0.4* 2001-12 -0.9* White NH <sup>ef</sup> 1992-01 -0.3* 2001-12 -0.8* Black 1992-12 -1.2* Black NH <sup>ef</sup> 1992-12 -1.1* API <sup>e</sup> 1992-07 -1.4* 2007-12 2.3  AI/AN <sup>eg</sup> 1992-12 -0.2  AI/AN <sup>eg</sup> 1992-12 -0.2		1992-12	1.6											1.6	1.6	
All Races 1975-80 0.6 1980-88 -0.6* 1988-91 0.7 1991-01 -0.6* 2001-12 -1.0* -1.0* -1.0* -0.9* -0	Hispanic <sup>f</sup>	1992-12	0.4											0.4	0.4	
White 1975-00 -0.3* 2000-12 -0.9*	U.S. Cancer Morta	lity <sup>c</sup> , 1975-	2012													
Black 1975-91 0.7* 1991-12 -1.2* <u>U.S. Cancer Mortality<sup>c</sup>, 1992-2012</u> All Races 1992-01 -0.5* 2001-12 -1.0*  White 1992-01 -0.4* 2001-12 -0.9*  White NH <sup>ef</sup> 1992-01 -0.3* 2001-12 -0.8*  Black 1992-12 -1.2*  Black NH <sup>ef</sup> 1992-12 -1.1*  API <sup>e</sup> 1992-07 -1.4* 2007-12 2.3  AI/AN <sup>eg</sup> 1992-12 -0.2  -1.2* -1.2*  -1.0*  -1.0*  -1.0*  -1.0*  -1.0*  -1.0*  -1.0*  -1.1*  -1.1*  -1.1*  -1.1*  -1.1*		1975-80	0.6		-0.6*	1988-91	0.7	1991-01	-0.6*	2001-12	-1.0*					
U.S. Cancer Mortality <sup>c</sup> , 1992-2012  All Races 1992-01 -0.5* 2001-12 -1.0*  White 1992-01 -0.4* 2001-12 -0.9*  White NH <sup>ef</sup> 1992-01 -0.3* 2001-12 -0.8*  Black 1992-12 -1.2*  Black NH <sup>ef</sup> 1992-12 -1.1*  API <sup>e</sup> 1992-07 -1.4* 2007-12 2.3  AI/AN <sup>eg</sup> 1992-12 -0.2  Black NH <sup>ef</sup> 1992-12 -0.2					-0.9*											
All Races 1992-01 -0.5* 2001-12 -1.0*  White 1992-01 -0.4* 2001-12 -0.9*  White NH <sup>ef</sup> 1992-01 -0.3* 2001-12 -0.8*  Black 1992-12 -1.2*  Black NH <sup>ef</sup> 1992-12 -1.1*  API <sup>e</sup> 1992-07 -1.4* 2007-12 2.3  AI/AN <sup>eg</sup> 1992-12 -0.2  -0.8*  -1.0*  -1.0*  -0.9*  -0.9*  -0.8*  -0.8*  -1.2*  -1.2*  -1.1*  -1.1*  -1.1*  -1.1*	Black	1975-91	0.7*	1991-12	-1.2*									-1.2*	-1.2*	
White 1992-01 -0.4* 2001-12 -0.9* White NH <sup>ef</sup> 1992-01 -0.3* 2001-12 -0.8*  Black 1992-12 -1.2* Black NH <sup>ef</sup> 1992-12 -1.1*  API <sup>e</sup> 1992-07 -1.4* 2007-12 2.3  AI/AN <sup>eg</sup> 1992-12 -0.2  -0.9* -0.9* -0.9* -0.9* -0.8* -0.8* -0.8* -1.2* -1.2* -1.1* -1.1* -1.1* -1.1*																
White NH <sup>ef</sup> 1992-01 -0.3* 2001-12 -0.8* -0.8* Black 1992-12 -1.2* -1.2* -1.2* Black NH <sup>ef</sup> 1992-12 -1.1* -1.1* API <sup>e</sup> 1992-07 -1.4* 2007-12 2.3 0.6 2.3 AI/AN <sup>eg</sup> 1992-12 -0.2																
Black 1992-12 -1.2* Black NH <sup>ef</sup> 1992-12 -1.1* API <sup>e</sup> 1992-07 -1.4* 2007-12 2.3 AI/AN <sup>eg</sup> 1992-12 -0.2 -0.2																
Black NH <sup>ef</sup> 1992-12 -1.1* -1.1* API <sup>e</sup> 1992-07 -1.4* 2007-12 2.3 0.6 2.3 AI/AN <sup>eg</sup> 1992-12 -0.2 -0.2	White NH <sup>ef</sup>	1992-01	-0.3*	2001-12	-0.8*									-0.8*	-0.8*	
API <sup>e</sup> 1992-07 -1.4* 2007-12 2.3 AI/AN <sup>eg</sup> 1992-12 -0.2 -0.2														-1.2*	-1.2*	
$AI/AN^{eg}$ 1992-12 -0.2		1992-12	-1.1*											-1.1*	-1.1*	
	API <sup>e</sup>	1992-07	-1.4*	2007-12	2.3									0.6	2.3	
Hispanic <sup>f</sup> 1992-96 2.0 1996-12 -0.7* -0.7*	AI/AN <sup>eg</sup>	1992-12	-0.2											-0.2	-0.2	
	Hispanic <sup>f</sup>	1992-96	2.0	1996-12	-0.7*									-0.7*	-0.7*	

Joinpoint Regression Program Version 4.2.0, April 2015, National Cancer Institute. (<a href="http://surveillance.cancer.gov/joinpoint/">http://surveillance.cancer.gov/joinpoint/</a>). The APC is the Annual Percent Change based on rates age-adjusted to the 2000 US Std Population (19 age groups - Census P25-1130). Trends are from the SEER 9 areas (San Francisco, Connecticut, Detroit, Hawaii, Iowa, New Mexico, Seattle, Utah, and Atlanta).

Trends are from the SEER 13 areas (SEER 9 Areas, Los Angeles, San Jose-Monterey, Rural Georgia, and the Alaska Native Registry).

Trends are from US Mortality Files, National Center for Health Statistics, Centers for Disease Control and Prevention.

d The AAPC is the Average Annual Percent Change and is based on the APCs calculated by Joinpoint.

API - Asian/Pacific Islander, AI/AN - American Indian/Alaska Native, NH - Non-Hispanic

Hispanic and Non-Hispanic are not mutually exclusive from whites, blacks, Asian/Pacific Islanders, and American Indians/Alaska Natives. Incidence data for Hispanics and Non-Hispanics are based on NHIA and exclude cases from the Alaska Native Registry. The Hispanic and Non-Hispanic mortality trends exclude deaths from New Hampshire and Oklahoma.

Data for American Indian/Alaska Native are based on the CHSDA(Contract Health Service Delivery Area) counties.

The APC/AAPC is significantly different from zero (p<.05).

Joinpoint regression line analysis could not be performed on data series.